

1 AMENDMENTS TO THE CLAIMS

1 1. (presently amended) An apparatus, comprising:

2 a jet mill for the comminution of powdery materials, comprising;

3 a pressure resistant pancake shaped pulverizing inner casing, the inner casing having

4 walls encasing a pancake shaped first cavity, the inside casing comprising a

5 cylindrical wall and two flat, substantially parallel walls, the cylindrical wall, at

6 least one wall of the inner casing for resisting a high first pressure outside the

7 inner casing when a low second pressure obtains within the inner casing, the

8 inner casing, the cylindrical wall having at least one first inlet port drilled through

9 the cylindrical wall at a non-perpendicular angle, the first inlet port acting as a

10 nozzle for introducing a propellant fluid having ~~a~~ the high first pressure outside

11 the inner casing into the first cavity, the at least one inlet port for converting

12 potential energy of the propellant fluid outside the inner casing to kinetic energy

13 of a jet of propellant fluid inside the first cavity when a low second pressure

14 obtains within the first cavity, and wherein the inner casing is resistant to the

15 pressure difference between the high first pressure outside the inner casing and

16 the low second pressure within the first cavity, the inner casing for being

17 completely contained within a pancake shaped second cavity, the second cavity

18 defined by walls of a pressure resistant outer casing, wherein the outer casing is

19 resistant to a pressure difference between the high first pressure inside the

20 second cavity and a low third pressure outside the outer casing, and wherein a

21 pressurized annular duct is formed inside the second volume between the walls

22 of the outer casing and the ~~walls~~ cylindrical wall of the inner casing, and wherein

23 the pressurized duct has a significant volume compared to the inside volume of

24 the first cavity inner casing, and wherein the pressurized duct is filled with

25 propellant fluid having the first high pressure, and wherein the propellant fluid is

26 fed from the pressurized duct through the at least one first inlet port into the first
27 cavity inside of the inner casing, the inner casing having abrasion resistant inner
28 surfaces, the inner casing having at least one second inlet port for introducing a
29 powdery material through a port in a wall of the outer casing into the first cavity
30 volume, the inner casing having at least one outlet port for extracting the
31 comminuted powdery material from the first cavity volume through a port in a
32 wall of the outer casing.

1 2. (Original) The apparatus of claim 1, further comprising the outer casing.

1 3. (Original) The apparatus of claim 2, wherein the outer casing operatively compresses the
2 inner casing over at least one area, and wherein at least one vent is placed in the outer
3 casing in the at least one area.

1 4. (Previously presented) The apparatus of claim 3, wherein an equalizing film is inserted
2 between the outer casing and the inner casing over the at least one area.

1 5. (Original) The apparatus of claim 2, wherein the inner casing comprises four parts.

1 6. (Original) The apparatus of claim 5, wherein each part of the inner casing is made of a
2 single abrasion-resistant material.

1 7. (Original) The apparatus of claim 5, wherein parts of the inner casing are made from
2 different abrasion-resistant materials.

1 8. (Original) The apparatus of claim 5, wherein the abrasion resistant inner surface is smooth

1 9. (Original) The apparatus of claim 5, wherein the abrasion resistant inner surface is textured.

1 10. (Original) The apparatus of claim 1, wherein the abrasion resistant inner surfaces are

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Int'l. filing date Nov. 12, 2003, art unit 3725 examiner Jason Y Palang

2 chosen selected from a group consisting of hard metals, carbides, borides, nitrides, and
3 ceramic materials.

1 11. (Original) The apparatus of claim 10, wherein the inner casing comprises four parts.

1 12. (Original) The apparatus of claim 11, wherein each part of the inner casing is made of a
2 single abrasion-resistant material.

1 13. (Original) The apparatus of claim 11, wherein parts of the inner casing are made from
2 different abrasion-resistant materials.

1 14. (Original) The apparatus of claim 1, wherein the propellant fluid is air.

1 15. (Original) The apparatus of claim 1, wherein the propellant fluid is nitrogen.

1 16. (Original) The apparatus of claim 1, wherein the propellant fluid is steam.

1 17. (Original) The apparatus of claim 1, wherein the abrasion resistant inner surface is smooth.

1 18. (Original) The apparatus of claim 1, wherein the abrasion resistant inner surface is textured

1 19. (Original) The apparatus of claim 1, wherein the inner casing comprises four parts.

1 20. (Original) The apparatus of claim 19, wherein each part of the inner casing is made of a
2 single abrasion-resistant material.

1 21. (Original) The apparatus of claim 19, wherein parts of the inner casing are made from
2 different abrasion-resistant materials.

1 22-27. (Canceled)

1 28. (Previously presented) The apparatus of claim 1, wherein the inner casing is completely
2 assembled before introduction into the outer casing.

1 29. (Canceled)